CELLIANT® TECHNOLOGY / SUMMARY OF CLINICAL STUDIES

DATE	TITLE	PRIMARY INVESTIGATOR	SPONSORING INSTITUTION	SUMMARY RESULTS	PUBLICATION	NUMBER OF SUBJECTS
2013-2014	Randomized Controlled Trial Comparing the Effects of FarInfrared Emitting Ceramic Fabric Shirts and Control Polyester Shirts on Transcutaneous PO2	Dr. Ian Gordon	Long Beach Memorial VA Hospital Western IRB	An average TCPO2 gain of over 8% across 71% of all subjects with clinically signifcant differences at a 99% degree of confidence.	Journal of Textile Science and Engineering	153
2012	Impacts of Subjects Socks with the Application of Celliant Technical Fibers on Trancutaneous Oxygen Pressure	Dr. Li Shaojing	Academy of Chinese Sciences	An average TCPO2 gain of 17% in subjects foot.	N/A	100
2012	Effect of Celliant Materials on Pain and Strength with Chronic Elbow and Wrist Pain	Dr. Ian Gordon	University of CA, Irvine Long Beach Veteran's Affairs Medical Center	Pain reduced and 10% increase in grip strength.	N/A	70
2011	Apparel with Far Infrared Radiation for Decreasing an Athlete's Oxygen Consumption during Submaximal Exercise	Dr. Darren Stefanyshyn / Dr. Jay Worobets	University of Calgary Human Performance Laboratory	Resulted in reduced consumption of V02	Research Journal of Textile and Apparel	12
2008-2011	Double blind, placebo controlled, crossover trial on the effect of Optically Modified Polyethylene Terephthalate Fiber mattress covers on sleep disturbances in patients with chronic back pain	Dr. Marcel Hungs / Dr. Annabel Wang	University of CA, Irvine Medical Center, Orange CA	Nighttime awakenings, sleep quality and sleep efficiency improved.	Abstract	6
2009	Transcutaneous Partial Pressure of Oxygen(TcPo2) as a Primary Endpoint to Assess the Efficacy of Celliant as a Vasoactive Material	Dr. Ian Gordon	University of CA, Irvine Long Beach Veteran's Affairs Medical Center	An average TCPO2 gain of 7% and an average gain in grip strength of 12%.	Abstract	51
2009	Effect of Optically Modified Polyethylene Terephthalate Fiber Socks on Chronic Foot Pain	Dr. Ian Gordon / Dr. Robyn York	University of CA, Irvine Medical Center, Orange CA	Statistically significant reduction of pain and improved comfort for subjects.	BioMed Central Complementary & Alternative Medicine	55

CELLIANT® TECHNOLOGY / SUMMARY OF CLINICAL STUDIES (CONTINUED)

DATE	TITLE	PRIMARY INVESTIGATOR	SPONSORING INSTITUTION	SUMMARY RESULTS	PUBLICATION	NUMBER OF SUBJECTS
2005	Celliant Study of Thirteen Healthy Subjects	Dr. Graham McClue	University of Texas A&M Houston, Texas	An average increase in TCPO2 levels from 10% to 24%.	Abstract	13
2003	Improving Blood Flow with Celliant in the Hands and Feet of High-Risk Diabetics	Dr. Lawrence Lavery	Loyola University Chicago, Chicago, IL	An average increase in TCPO2 levels from 12% in the hands and 8% in the feet.	Abstract	20

CELLIANT® TECHNOLOGY / SUMMARY OF PHYSICAL STUDIES

DATE	SUBJECT	PRIMARY INVESTIGATOR	SPONSORING INSTITUTION	PUBLISHED (YES/NO)	JOURNAL/ PUBLICATION	OUTCOME
2012	Principals of IR	Dr. Michael Hamblin	Harvard/ Wellman Center for Photomedicine	No	Photonics and Lasers in Medicine	Far Infrared Radiation (FIR) Its Biological Effects and Medical Applications.
2016	IR Emissivity	Dr. David Anderson	Exponent	Yes	Optics Express	Emissivity increased by .14 MW per CM2 at fabric temperature of 32 Celsius with a 42% Celliant fabric vs. control.
2016	Solar IR Emissivity	Dr. David Anderson	Exponent	Yes	Biomedical Optics Express	Emissivity increased by approximately 10x when sunlight is also used to power Celliant technology.